CLAIMS

What is claimed is:

1. An isolated nucleic acid molecule comprising a coding sequence for an immunogenic *C. parvum* polypeptide selected from the group consisting of (a) a *C.* parvum antigenic polypeptide 1 (AG1) and (b) a *C.* parvum antigenic polypeptide 2 (AG2), or a fragment of said nucleic acid molecule comprising at least 15 nucleotides.

2. The nucleic acid molecule of claim 1 wherein said molecule comprises a nucleotide sequence having at least about 80% identity to the nucleotide sequence shown at nucleotide positions 8-394, inclusive, of Figure 1A (SEQ ID NO:1), or a fragment thereof comprising at least about 15 nucleotides.

3. The nucleic acid molecule of claim 1 wherein said molecule comprises a nucleotide sequence having at least about 80% identity to the nucleotide sequence shown at nucleotide positions 9-587, inclusive, of Figure 1B (SEQ ID NO:3), or a fragment thereof comprising at least about 15 nucleotides.

4. A recombinant vector comprising:

(a) a nucleic acid molecule according to claim 1; and

(b) control elements that are operably linked to said nucleic acid molecule whereby said coding sequence can be transcribed and translated in a host cell, and at least one of said control elements is heterologous to said coding sequence.

5. A recombinant vector comprising:

(a) a nucleic acid molecule according to claim 2; and

(b) control elements that are operably linked to said nucleic acid molecule whereby said coding sequence can be transcribed and translated in a host cell, and at least one of said control elements is heterologous to said coding sequence.

6. A recombinant vector comprising:

(a) a nucleic acid molecule according to claim 3; and

(b) control elements that are operably linked to said nucleic acid molecule whereby said coding sequence can be transcribed and translated in a host cell, and at least one of said control elements is heterologous to said coding sequence.

7. A host cell transformed with the recombinant vector of claim 4.

8. A method of producing a recombinant *C. parvum* antigenic polypeptide comprising:

(a) providing a population of host cells according to claim 7; and

(b) culturing said population of cells under conditions whereby the antigenic polypeptide encoded by the coding sequence present in said recombinant vector is expressed.

9. A composition comprising a pharmaceutically acceptable vehicle and an immunogenic *C. parvum* antigenic polypeptide selected from the group consisting of (a) a *C.* parvum antigenic polypeptide 1 (AG1), (b) a *C.* parvum antigenic polypeptide 2 (AG2) and (c) an immunogenic fragment of (a) or (b) comprising at least 5 amino acids.

10. The composition of claim 9, wherein said antigenic polypeptide comprises an amino acid sequence having at least about 80% identity to the amino acid sequence shown at amino acid positions 1-129, inclusive, of Figure 1A (SEQ ID NO:2), or an immunogenic fragment thereof comprising at least about 5 amino acids.

11. The composition of claim 9, wherein said antigenic polypeptide comprises an amino acid sequence having at least about 80% identity to the amino acid sequence shown at amino acid positions 1-193, inclusive, of Figure 1B (SEQ ID NO:4), or an immunogenic fragment thereof comprising at least about 5 amino acids.

12. The composition of claim 9, comprising a *C.* parvum antigenic polypeptide 1 (AG1) and a *C.* parvum antigenic polypeptide 2 (AG2).

13. The composition of claim 9, further comprising an adjuvant.

14. A composition comprising a pharmaceutically acceptable vehicle and an antibody, or fragment thereof, that recognizes an immunogenic *C. parvum* antigenic polypeptide selected from the group consisting of (a) a *C.* parvum antigenic polypeptide 1, (b) a *C.* parvum antigenic polypeptide 2 and (c) an immunogenic fragment of (a) or (b) comprising at least 5 amino acids.

15. The composition of claim 14, wherein said antigenic polypeptide comprises an amino acid sequence having at least about 80% identity to the amino acid sequence shown at amino acid positions 1-129, inclusive, of Figure 1A (SEQ ID NO:2), or an immunogenic fragment thereof comprising at least about 5 amino acids.

16. The composition of claim 14, wherein said antigenic polypeptide comprises an amino acid sequence having at least about 80% identity to the amino acid sequence shown at amino acid positions 1-193, inclusive, of Figure 1B (SEQ ID NO:4), or an immunogenic fragment thereof comprising at least about 5 amino acids.

17. The composition of claim 14, comprising monoclonal antibody 1101.

18. The composition of claim 14, comprising monoclonal antibody 222.

19. The composition of claim 14, comprising monoclonal antibodies 1101 and 222.

20. A method of treating or preventing *C. parvum* infection in a mammalian subject comprising administering to said subject a therapeutically effective amount of a composition according to claim 9.

21. A method of treating or preventing *C. parvum* infection in a mammalian subject comprising administering to said subject a therapeutically effective amount of a composition according to claim 14.

22. A method of producing a composition comprising:

(a) providing an immunogenic *C. parvum* antigenic polypeptide selected from the group consisting of (a) a *C. parvum* antigenic polypeptide 1, (b) a *C. parvum* antigenic polypeptide 2 and (c) an immunogenic fragment of (a) or (b) comprising at least 5 amino acids; and

(b) combining said antigenic polypeptide with a pharmaceutically acceptable vehicle.

23. A method for producing a composition comprising:

(a) providing an antibody that recognizes an immunogenic *C. parvum* antigenic polypeptide selected from the group consisting of (a) a *C. parvum* antigenic polypeptide 1 (AG1), (b) a *C. parvum* antigenic polypeptide 2 (AG2) and (c) an immunogenic fragment of (a) or (b) comprising at least 5 amino acids; and

(b) combining said antibody with a pharmaceutically acceptable vehicle.

24. The method of claim 23, wherein the antibody is monoclonal antibody 1101.

25. The method of claim 23, wherein the antibody is monoclonal antibody 222.

26. A method of detecting *C. parvum* antibodies in a biological sample comprising:

(a) providing a biological sample;

(b) reacting said biological sample with an immunogenic *C. parvum* antigenic polypeptide selected from the group consisting of (a) a *C. parvum* antigenic polypeptide 1, (b) a *C.* parvum antigenic polypeptide 2 and (c) an immunogenic fragment of (a) or (b) comprising at least 5 amino acids, under conditions which allow *C. parvum* antibodies, when present in the biological sample, to bind to said *C. parvum* antigenic polypeptide to form an antibody/antigen complex; and

(c) detecting the presence or absence of said complex,

thereby detecting the presence or absence of *C. parvum* antibodies in said sample.

27. A method of detecting *C. parvum* antigens in a biological sample comprising:

(a) providing a biological sample;

(b) reacting said biological sample with an antibody that recognizes an immunogenic *C. parvum* antigenic polypeptide selected from the group consisting of (a) a *C.* parvum antigenic

polypeptide 1, (b) a *C.* parvum antigenic polypeptide 2 and (c) an immunogenic fragment of (a) or (b) comprising at least 5 amino acids, under conditions which allow *C. parvum* antigens, when present in the biological sample, to bind to said *C. parvum* antibodies to form an antibody/antigen complex; and

(c) detecting the presence or absence of said complex,

thereby detecting the presence or absence of *C. parvum* antigens in said sample.

28. The method of claim 27, wherein the antibody is monoclonal antibody 1101.

29. The method of claim 27, wherein the antibody is monoclonal antibody 222.

30. An immunodiagnostic test kit for detecting *C. parvum* infection, said test kit comprising an immunogenic *C. parvum* antigenic polypeptide selected from the group consisting of (a) a *C.* parvum antigenic polypeptide 1 (AG1), (b) a *C.* parvum antigenic polypeptide 2 (AG2) and (c) an immunogenic fragment of (a) or (b) comprising at least 5 amino acids, and instructions for conducting the immunodiagnostic test.

31. An immunodiagnostic test kit for detecting *C. parvum* infection, said test kit comprising an antibody that recognizes an immunogenic *C. parvum* antigenic polypeptide selected from the group consisting of (a) a *C.* parvum antigenic polypeptide 1, (b) a *C.* parvum antigenic polypeptide 2 and (c) an immunogenic fragment of (a) or (b) comprising at least 5 amino acids, and instructions for conducting the immunodiagnostic test.